

### **REMARKS**

In the June 23, 2009 Office Action, the Abstract was objected to and claims 3, 4, 11-33, 35 and 37 stand rejected in view of prior art, while claims 1, 2 and 5-10 were indicated as containing allowable subject matter. Claims 1, 2 and 4-10 also were rejected as being indefinite for failing particularly point out and distinctly claim the subject matter that Applicants regard as the invention and claims 20, 30 and 31 were similarly objected to. No other objections or rejections were made in the Office Action.

### ***Status of Claims and Amendments***

In response to the June 23, 2009 Office Action, Applicants have amended the Abstract to comply with MPEP 608.01(b), and Applicants have also amended claims 1, 2, 20, 30, 32, 35 and 37, and introduced new claims 38-39, as indicated above. Applicants wish to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application. Thus, claims 1-32, 35 and 37-39 are pending, with claims 1, 3, 20, 21, 32, 35 and 37 being the only independent claims. Reexamination and reconsideration of the pending claims are respectfully requested in view of above amendments and the following comments.

### ***Drawings***

In paragraph 1 of the Office Action, the Office Action indicates that the drawings are missing from the files at the USPTO. Applicants are filing herewith a replacement sheet of drawings. The present application claims priority to PCT/JP2004/016940, filed November 15, 2004. The accompanying replacement sheet of drawings includes content identical to the drawings in PCT/JP2004/016940.

Hence, Applicants assert that the submission of the replacement sheet of drawings has not introduced new matter.

***Specification***

In paragraph 2 and 3 of the Office Action, the Abstract was objected to for failing to comply with MPEP 608.01(b).

Accordingly, Applicants have amended the Abstract. Withdrawal of the objection is respectfully requested.

***Claim Objections - 37 C.F.R. §1.75(c)***

In paragraph 4 of the Office Action, claims 20, 30 and 31 were objected to under 37 C.F.R. §1.75(c). In response, Applicants have amended claims 20 and 30 to eliminate the alleged multiple dependency.

Applicants have introduced new dependent claims 38 and 39 to maintain the subject matter deleted from claim 30 (and claim 31).

Withdrawal of the objection is respectfully requested.

***Claim Rejections - 35 U.S.C. §112***

In paragraphs 5-7 of the Office Action, claims 1, 2 and 4-10 were rejected under 35 U.S.C. §112, second paragraph. In response, Applicants have amended independent claims 1 and 2 to clarify claims 1 and 2. Claims 4-10 depend from amended claim 1 and are now considered to be in proper form.

Applicants believe that the claims now comply with 35 U.S.C. §112, second paragraph. Withdrawal of the rejections is respectfully requested.

***Rejections - 35 U.S.C. § 103- Claims 3, 11, 13, 14, 16, 17 & 19***

In paragraphs 10-14 of the Office Action, claims 3, 11, 13, 14, 16, 17 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over PCT Publication No. WO 03/099955 (hereinafter “the Masuda publication”) in view of U.S. Patent No. 4,397,799 (hereinafter “the Edgren et al. patent”). In response, Applicants have conducted several experiments, as set forth in the accompanying DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI and discussed in greater detail below.

*Claim 3*

First, independent claim 3 requires jetting ***a gas fluid*** containing the plurality of heat-expandable microspheres. Contrary to the assertions in the Office Action, the Edgren et al. patent specifically teaches that the dispersion of unexpanded microspheres be in ***an inert liquid***, such as water (see column 2, lines 13-18 of the Edgren et al. patent). Hence, Applicants assert that the Edgren et al. patent teaches away from the claimed invention. Further, as discussed below, the teachings of the Edgren et al. patent when combined with the teachings of the Masuda publication do not yield the claimed invention.

Applicants have conducted extensive experiments using the teachings of the Masuda publication combined with the Edgren et al. patent as set forth in the Office Action. The results of these experiments are detailed in the accompanying DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI. Applicants’ experiments clearly show that combining the teachings of the Masuda publication with the teachings of the Edgren et al. patent do not result in the claimed invention, as is discussed in greater detail below.

The claimed arrangement is ***not*** disclosed or suggested by the Masuda publication, the Edgren et al. patent or any other prior art of record.

Under U.S. patent law, the mere fact that the prior art can be modified does **not** make the modification obvious, unless an **apparent reason** exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some "apparent reason to combine the known elements in the fashion claimed." Id. at 1741. The current record lacks any apparent reason, suggestion or expectation of success for combining the patents to create Applicants' unique arrangement of a method of producing heat-expandable microspheres.

*Claims 11, 13, 14, 16, 17 and 19*

As is detailed in the accompanying DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI, Applicants experiments clearly show that combining the teachings of the Masuda publication with the teachings of the Edgren et al. patent do not result in the claimed invention. More specifically, the products produced using the combination of features disclosed in the Masuda publication and the Edgren et al. patent and alleged in the Office Action, do not meet the requirements of the claims.

For example, independent claim 11 requires that: 1) ***the heat-expanded microspheres contain not more than 5 weight percent of aggregated microspheres, and 2) not more than 5 weight percent of microspheres having a true specific gravity not lower than 0.79 g/cc at 25°C.*** Neither of these limitations are met by the products produced using the methods set forth in the Office Action based upon the combination of the teachings of the Masuda publication and the teachings of the Edgren et al. patent.

More specifically, as set forth on page 3 of the DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI, the heat-expandable microspheres prepared using the teachings of the Masuda publication and the Edgren et al. patent fail to ***contain not more than 5 weight percent of aggregated microspheres, and not more than 5 weight percent of microspheres having a true specific gravity not lower than 0.79 g/cc at 25°C.*** Thus, cited prior art does not make the claimed invention obvious.

Moreover, Applicants believe that dependent claims 13, 14, 16, 17 and 19 are also allowable over the prior art of record in that they depend from independent claim 11, and therefore are allowable for the reasons stated above. Also, the dependent claims 13, 14, 16, 17 and 19 are further allowable because they include additional limitations. Thus, Applicants believe that since the prior art of record does not disclose or suggest the invention as set forth in independent claim 11, the prior art of record also fails to disclose or suggest the inventions as set forth in the dependent claims.

Therefore, Applicants respectfully request that this rejection be withdrawn in view of the above comments.

***Rejections - 35 U.S.C. § 103- Claims 12, 15 & 18***

In paragraphs 15-18 of the Office Action, claims 12, 15 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Masuda publication in view of the Edgren et al. patent and further in view of U.S. Patent No. 6,225,361 (hereinafter “the Nakajima et al. patent”). In response, Applicants respectfully assert that the rejection is improper for the reasons set forth below.

As mentioned above, Applicants have conducted several experiments, as set forth in the accompanying DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI and

discussed in greater detail below. As discussed above, these experiments show that the combination set forth in the Office Action fail to produce heat-expanded microspheres that meet the limitations of independent claim 11. Since dependent claims 12, 15 and 18 all depend from allowable independent claim 11, they too are allowable.

Therefore, Applicants respectfully request that this rejection be withdrawn in view of the above comments.

***Rejections - 35 U.S.C. § 103- Claims 21, 23, 25-27, 29 & 32***

In paragraphs 19-24 of the Office Action, claims 21, 23, 25-27, 29 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Masuda publication in view of U.S. Patent No. 5,834,526 (hereinafter “the Wu et al. patent). In response, Applicants respectfully assert that the rejection of independent claim 21 is improper for the reasons set forth below. With respect to claim 32, claim 32 has been amended to include the subject matter of dependent claim 33 and is discussed below with the rejection of claim 33.

***Independent claim 21***

Independent claim 21 requires the heat-expandable microspheres ***contain not more than 5 weight percent of microspheres having a true specific gravity not lower than 0.79 g/cc at 25°C.***

Applicants have conducted experiments using the teachings of the Masuda publication combined with teachings of the Wu et al. patent (the combination of features as set forth in the Office Action). The results of these experiments are detailed in the accompanying DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI. Applicants’

experiments clearly show that combining the teachings of the Masuda publication with the teachings of the Wu et al. patent do not result in the claimed invention.

More specifically, as set forth on page 3 of the DECLARATION UNDER 37 C.F.R. § 1.132 OF KATSUSHI MIKI, the heat-expandable microspheres prepared using the teachings of the Masuda publication and the teachings of the Wu et al. patent fail to ***contain not more than 5 weight percent of microspheres having a true specific gravity not lower than 0.79 g/cc at 25°C.***

Therefore, the claimed invention is ***not*** disclosed or suggested by the Masuda publication, the Wu et al. patent or any other prior art of record. Contrary to the allegations made in the Office Action, the combination of the teachings of the Masuda publication with the teachings of the Wu et al. patent do not meet the limitations of independent claim 21. Consequently, Applicants respectfully assert that the claimed invention of independent claim 21 is allowable over the cited prior art.

Moreover, Applicants believe that dependent claims 23, 25-27 and 29 are also allowable over the prior art of record in that they depend from independent claim 21, and therefore are allowable for the reasons stated above. Also, the dependent claims 23, 25-27 and 29 are further allowable because they include additional limitations. Thus, Applicants believe that since the prior art of record does not disclose or suggest the invention as set forth in independent claim 21, the prior art of record also fails to disclose or suggest the inventions as set forth in the dependent claims.

Therefore, Applicants respectfully request that this rejection be withdrawn in view of the above comments.

***Rejections - 35 U.S.C. § 103- Claims 22, 24, 28 and 33***

In paragraphs 25-28 of the Office Action, claims 22, 24, 28 and 33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Masuda publication in view of the Wu et al. patent and in further view of the Nakajima et al. patent. In response, Applicants respectfully assert that claims 22, 24 and 28 are allowable in that they depend from allowable independent claim 21. The allowability of independent claim 21 is argued above.

As set in paragraph 28 of the Office Action, the Nakajima et al. patent is cited for its disclosure of calcium carbonate.

With respect to claim 33, Applicants have amended claim 32 to include the subject matter of claim 33 and have cancelled claim 33. Amended independent 32 includes all the limitations of claim 33 excluding calcium carbonate, which is disclosed by the Nakajima et al. patent. Therefore, Applicants respectfully assert that amended independent claim 32 distinguishes over the cited prior art because the cited prior art fails to disclose or suggest that *each of the heat-expandable microspheres further comprises an anti-blocking agent that adheres to the outer surface of the shell, wherein the anti-blocking agent is at least one selected from the group consisting of: organic compounds having a melting point not lower than 90°C; and inorganic compounds having a layered structure and being selected from the group consisting of mica, bentonite, sericite, molybdenum disulfide, tungsten disulfide, carbon fluoride, calcium fluoride, boron nitride, isinglass, calcium hydroxide, calcium phosphate, magnesium hydroxide and magnesium phosphate.*

The Markush group of independent claim 32 includes the closed claim recitation “consisting of” thereby excluding calcium carbonate.

Applicants respectfully assert that amended independent claim 32 distinguishes over the cited prior art and is in condition for allowance.



***Rejections - 35 U.S.C. § 103- Claims 35, 36 and 37***

In paragraphs 29-34 of the Office Action, claims 35 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the Masuda publication and claims 36 and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Masuda publication in combination with the Nakajima et al. patent.

***Independent Claim 35***

In response, Applicants have amended claim 35 to include the subject matter of claim 36 and cancelled claim 36. More specifically, independent claim 35 has been amended to recite that ***the method of production further comprising the step of attaching an anti-blocking agent to the outer surface of the shell, wherein the anti-blocking agent is at least one selected from the group consisting of: organic compounds having a melting point not lower than 90°C; and inorganic compounds having a layered structure and being selected from the group consisting of mica, bentonite, sericite, molybdenum disulfide, tungsten disulfide, carbon fluoride, calcium fluoride, boron nitride, isinglass, calcium hydroxide, calcium phosphate, magnesium hydroxide and magnesium phosphate.*** As with claim 32, amended independent 35 includes all the limitations of claim 36 excluding calcium carbonate, which is disclosed by the Nakajima et al. patent. The Markush group of independent claim 35 includes the closed claim recitation “consisting of” thereby excluding calcium carbonate.

Applicants respectfully assert that amended independent claim 35 distinguishes over the cited prior art and is in condition for allowance.

***Independent Claim 37***

Applicants have also amended claim 37 to include the subject matter of claim 36. More specifically, independent claim 37 has been amended to recite the Markush group of

claim 36 without calcium carbonate, as disclosed by the Nakajima et al. patent. Since the Markush group includes the closed claim recitation “consisting of”, calcium carbonate is excluded therefrom.

Applicants respectfully assert that amended independent claim 32 distinguishes over the cited prior art and is in condition for allowance.

#### ***Allowable Subject Matter***

In paragraphs 35 and 36 of the Office Action, claims 1 (and hence, dependent claims 2 and 4-10) were indicated as containing allowable subject matter. The rejection of claim 1 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph has now been overcome, therefore Applicants respectfully assert that claim 1 is now in condition for allowance. Similarly, Applicants respectfully assert that dependent claims 2 and 4-10 are also in condition for allowance since they depend from allowable independent claim 1. Applicants wish to thank the Examiner for this indication of allowable subject matter and the thorough examination of this application. Thus, independent claim 1 is believed to be allowable.

#### ***Prior Art Citation***

In the Office Action, additional prior art references were made of record. Applicants believe that these references do not render the claimed invention obvious.

#### ***New Claims 38 and 39***

Applicants have added new claims 38 and 39 by the current Amendment. Claim 30 previously depended from claims 11 and 21. Claim 30 was amended to eliminate the multi-dependency. New claims 38 and 39 have been introduced to capture the subject matter of

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claim 30 that was cancelled to eliminate the multi-dependency. Therefore, no new issues are being raised by the introduction of new claims 38 and 39.

\* \* \*

In view of the foregoing amendment and comments, Applicants respectfully assert that claims 1-32, 35 and 37-39 now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,

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